Complete Summary

GUIDELINE TITLE

Specific guidelines for disease - adults.

BIBLIOGRAPHIC SOURCE(S)

Specific guidelines for disease - adults. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl):61SA-96SA. [464 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Malnutrition
- Cardiac disease
- Pulmonary disease
- Liver disease
- Pancreatitis
- Short bowel syndrome
- Inflammatory bowel disease
- Solid organ transplantation
- Gastrointestinal fistulae
- Renal disease
- Neurologic impairment
- Cancer
- Hematopoietic stem cell transplantation
- Human immunodeficiency virus infection/Acquired immunodeficiency syndrome
- Critical burns
- Critical illness
- Hyperemesis gravidarum
- Eating disorders
- Surgery (perioperative period)

GUIDELINE CATEGORY

Evaluation
Management
Prevention
Screening
Treatment

CLINICAL SPECIALTY

Cardiology
Critical Care
Family Practice
Gastroenterology
Geriatrics
Infectious Diseases
Internal Medicine
Nephrology
Neurology
Nutrition
Obstetrics and Gynecology
Oncology
Pediatrics
Surgery

INTENDED USERS

Advanced Practice Nurses
Dietitians
Health Plans
Hospitals
Managed Care Organizations
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To revise the 1993 American Society for Parenteral and Enteral Nutrition Clinical Guidelines so that:
    - The Guidelines are factually up-to-date to reflect current, evidence-based, best approach to the practice of nutrition support
    - The Guidelines support the clinical and professional activities of nutrition support practitioners by articulating evidence-based recommendations upon which to base personal and institutional practices and resource allocation
    - The Guidelines serve as tools to help guide policy makers, health care organizations, insurers, and nutrition support professionals to improve the systems and regulations under which specialized nutrition support is administered

- To assist clinical practitioners who provide specialized nutrition support to patients in all care settings

TARGET POPULATION

Patients with illnesses or conditions that may require specialized nutrition support (SNS) to meet their nutritional needs

INTERVENTIONS AND PRACTICES CONSIDERED

Screening/Prevention

1. Nutrition screening

Evaluation

1. Formal assessment of nutritional requirements
    - Indirect calorimetry
    - Quantitative measurement of lean body mass using dual energy X-ray absorptiometry (DEXA) and bioelectrical impedance analysis (BIA)
2. Evaluation of swallow function
3. Individualized nutrition care plan

Treatment

1. Specialized diet to address nutrition requirements
2. Specialized nutrition support
    - Enteral nutrition
    - Parenteral nutrition
3. Fluid restrictions
4. Meal frequency (e.g. 4-6 meals per day for patients with liver disease)
5. Intravenous and oral supplements
6. Bowel rest program
7. Vitamin supplementation
8. Dietary counseling
9. AIDS wasting syndrome therapy including anabolic agents, resistance training, testosterone and appetite stimulants

Management

1. Monitoring and follow-up

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

A modified version of the method used by the Agency for Healthcare Research and Quality (AHRQ), US Department of Health and Human Services was used:

A. There is good research-based evidence to support the guideline (prospective, randomized trials).
B. There is fair research-based evidence to support the guideline (well-designed studies without randomization).
C. The guideline is based on expert opinion and editorial consensus.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Experts selected for their detailed knowledge and experience in a chosen niche reviewed the primary literature, synthesized and summarized it, and formulated the guideline statements.

In situations where evidence-based recommendations could not be made because of a lack of relevant clinical studies, recommendations are classified as being based on class C data (see the "Rating Scheme for the Strength of Evidence" field) and reflect an attempt to make the best recommendations possible within the context of the available data and expert clinical experience.

Issues Considered During Recommendation Formulation

- A thread running throughout many of the disease-specific guidelines is the rationale for choosing enteral over parenteral specialized nutrition support (SNS) or alternatively parenteral over enteral when a decision to use SNS has been made.
- Another fundamental issue that influenced many of the discussions and recommendations is the relationship between nutrition assessment, nutrition status, malnutrition, and severity of disease.

Refer to the companion document: Guidelines for the use of parenteral and enteral nutrition in adult and pediatric patients. Section I: Introduction. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 1SA-6SA.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Completed drafts were reviewed by the section editors (the members of the Clinical Guidelines Task Force [CGTF]), edited and/or rewritten, and then reviewed twice by the members of the CGTF as a group. The entire document was then re-edited by the CGTF Chair. This four-times–edited draft was submitted to the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors and more than 180 experts in the field of nutrition support (including experts and organizations outside of A.S.P.E.N.) for content, format, and style review. These reviewers were also specifically asked to check each guideline statement for appropriateness, accuracy, and strength of evidence. This review phase stimulated a final cycle of editing by the CGTF and the CGTF Chair. The final document was then approved by the A.S.P.E.N. Board of Directors and submitted to the Journal of Parenteral and Enteral Nutrition for publication.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The strength of the evidence supporting each guideline statement is coded A, B, or C. Definitions of these classifications is provided at the end of the "Major Recommendations" field.

Cardiac Disease

1. Patients with cardiac cachexia or who develop complications after cardiopulmonary bypass (CPB) are at nutrition risk, and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. The use of parenteral nutrition (PN) should be reserved for those cardiac patients having postoperative complications that preclude use of the gastrointestinal tract. (C)
3. In the cardiac surgery patient, enteral nutrition (EN) should be deferred until the patient is hemodynamically stable. (C)

Pulmonary Disease

1. Patients with chronic obstructive pulmonary disease (COPD) or acute respiratory distress syndrome (ARDS) are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. Energy intake should be kept at or below estimated needs in patients with pulmonary disease and demonstrated carbon dioxide retention. (B)
3. Routine use of modified carbohydrate and fat nutrition formulations in patients with pulmonary disease is not warranted. (B)
4. Provision of a modified enteral formulation containing n-3 fatty acids may be beneficial in the patient with early ARDS. (B)
5. A fluid-restricted nutrient formulation should be used in patients with ARDS whose hemodynamic status necessitates fluid restriction. (B)
6. Serum phosphate levels should be monitored closely in patients with pulmonary disease. (B)

Liver Disease

1. Patients with liver disease are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. Nutrition assessment in patients with liver disease should include screening for micronutrient deficiencies, including vitamins A, D, E, and K, and zinc. (B)
3. Patients with cirrhosis should divide their caloric intake into 4 to 6 meals per day, including a late evening snack. (B)
4. Protein restriction should be implemented for the acute management of overt hepatic encephalopathy. (A)
5. Protein restriction should not be implemented chronically in patients with liver disease. (B)
6. Use of branched-chain amino acid–enriched diets and SNS formulas is only indicated in chronic encephalopathy unresponsive to pharmacotherapy. (B)
7. Perioperative nutrition support should be used in patients undergoing liver resection for hepatocellular carcinoma associated with cirrhosis. (A)

Pancreatitis

1. Patients with pancreatitis are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)

2. Specialized nutrition support (SNS) should not be used routinely in patients with mild to moderate acute pancreatitis. (B)
3. SNS should be used in patients with acute or chronic pancreatitis to prevent or to treat malnutrition when oral energy intake is anticipated to be inadequate for 5 to 7 days. (B)
4. EN is the preferred route of SNS in patients with pancreatitis and should be attempted before initiating parenteral nutrition (PN). (A)
5. PN should be used in patients with pancreatitis if SNS is indicated and EN is not tolerated. (B)
6. Intravenous lipid emulsions are safe in acute pancreatitis provided triglyceride levels are monitored and remain below 400 mg/dL. (B)

Short Bowel Syndrome

1. Patients undergoing extensive bowel resection or with short bowel syndrome (SBS) are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. Patients with SBS and an intact colon should receive diets rich in complex carbohydrates and low in fat. (A)
3. A low oxalate diet should be given to patients with SBS and an intact colon. (A)
4. Monthly vitamin B-12 injections should be given to patients with greater than 100 cm of the terminal ileum resected. (A)
5. PN should be administered to patients with SBS if nutritional requirements cannot be met by oral or EN feeding. (A)

Inflammatory Bowel Disease

1. Patients with inflammatory bowel disease (IBD) are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. EN should be used in Crohn´s disease (CD) patients requiring SNS. (B)
3. PN should be reserved for those patients with IBD in whom EN is not tolerated. (B)
4. In cases of fistulae associated with CD, a brief course of bowel rest and PN should be attempted. (B)
5. Perioperative SNS is indicated in patients with IBD who are severely malnourished and in whom surgery may be safely postponed. (B)
6. SNS and bowel rest should not be used as primary therapies for ulcerative colitis (UC) or CD. (A)

Solid Organ Transplantation

1. Patients in any stage of the transplant process are at nutrition risk, and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. In the perioperative transplant period, patients should receive energy substrate similar to that required in all postoperative patients. (B)
3. In the perioperative transplant period, patients should receive 1.5 to 2.0 g/kg per day protein. (B)

4. SNS should be provided to malnourished patients with complications or delayed oral intake after solid organ transplant. (B)
5. Metabolic and nutrition complications of transplantation, including obesity, hypertension, diabetes mellitus, hyperlipidemia, and osteoporosis, should be treated with appropriate dietary and pharmacologic interventions. (C)

Gastrointestinal Fistulae

1. Patients with enterocutaneous fistulae are at nutrition risk and should undergo formal nutrition assessment and development of a nutrition care plan. (B)
2. EN, proximal or distal to the fistula, should be used in patients who cannot meet their nutritional needs by oral intake and who are malnourished or expected to have inadequate oral intake for 7 to 14 days or more. (B)
3. When SNS is required, PN should be reserved for those patients in whom enteral intake must be restricted. (C)

Renal Disease

1. Renal failure patients are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. Well-monitored patients with advanced chronic renal insufficiency but not on dialysis should receive diets restricted to 0.6 to 0.8 g of protein/kg per day. (A)
3. Patients with chronic renal failure (CRF) on hemodialysis or peritoneal dialysis should receive 1.2 to 1.3 g of protein/kg per day. (B)
4. Patients undergoing continuous hemofiltration should receive at least 1.0 g of protein/kg per day. (B)
5. Patients with acute renal failure (ARF) receiving SNS should be given a balanced mixture of both essential and nonessential amino acids. (A)
6. Patients with acute renal failure who are severely malnourished or hypercatabolic should receive 1.5 to 1.8 g of protein/kg per day. (B)
7. Intradialytic parenteral nutrition should only be considered in situations of gut failure or other unusual circumstances where EN and PN are not feasible. (C)
8. Water-soluble vitamin supplementation is required for patients treated with dialysis. (A)
9. Vitamin A status should be carefully monitored in patients with chronic renal failure. (A)

Neurologic Impairment

1. Patients with neurologic impairment are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. SNS should be initiated early in patients with moderate or severe traumatic brain injury (TBI). (B)
3. When SNS is required, EN is preferred if it is tolerated. (C)
4. PN should be administered to patients with TBI if SNS is indicated and EN does not meet the nutritional requirements. (C)

5. Indirect calorimetry should be utilized, if available to accurately determine nutrient requirements in patients with TBI and cerebral vascular accidents(CVA)s. (B)
6. Swallowing function should be evaluated to determine the safety of oral feedings and risk of aspiration before the initiation of an oral diet. (B)

Cancer

1. Patients with cancer are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. SNS should not be used routinely in patients undergoing major cancer operations. (A)
3. Preoperative SNS may be beneficial in moderately or severely malnourished patients if administered for 7 to 14 days preoperatively, but the potential benefits of nutrition support must be weighed against the potential risks of the SNS itself and of delaying the operation. (A)
4. SNS should not be used routinely as an adjunct to chemotherapy. (A)
5. SNS should not be used routinely in patients undergoing head and neck, abdominal, or pelvic irradiation. (B)
6. SNS is appropriate in patients receiving active anticancer treatment who are malnourished and who are anticipated to be unable to ingest and/or absorb adequate nutrients for a prolonged period of time. (C)
7. The palliative use of SNS in terminally ill cancer patients is rarely indicated. (B)

Hematopoietic Cell Transplantation

1. All patients undergoing conventional hematopoietic cell transplantation (HCT) with myeloablative conditioning regimens are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. When PN is used, it should be discontinued as soon as conditioning-related toxicities have resolved after stem cell engraftment. (A)
3. When gastrointestinal function returns post engraftment, EN should be used in patients in whom oral intake is inadequate to meet nutritional requirements. (B)
4. Pharmacologic doses of glutamine should not be used in patients undergoing HCT. (A)
5. Patients should receive dietary counseling regarding high risk foods and safe food handling during the period of immunocompromise. (B)
6. SNS is appropriate for patients undergoing HCT who develop moderate to severe graft-versus-host disease (GVHD) accompanied by poor oral intake. (C)

HIV/Acquired Immunodeficiency Syndrome

1. Patients with HIV are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)

2. Nutrition assessment of patients with HIV should include quantitative measurement of lean body mass (LBM) using dual energy X-ray absorptiometry (DEXA) or bioelectric impedance analysis (BIA). (B)
3. Patients with AIDS wasting syndrome (AWS) should receive specific AWS directed therapy, including anabolic agents and/or resistance training, testosterone in hypogonadal men, and appetite stimulants for those with decreased appetite. (A)
4. SNS has a very limited role in AWS and should be reserved for patients receiving active, disease directed treatment who are unable to meet their nutrient requirements by oral feeding. (B)

Critical Care Burns

1. Patients with second or third degree burns are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. Adequate calories must be provided to address the hypermetabolism associated with acute burn injury. (A)
3. When possible, the energy requirements of burn patients should be measured using indirect calorimetry. (B)
4. Severely burned patients require increased intake of protein until significant wound healing is achieved. (A)
5. There is no current role for the routine use of specific nutrients and anabolic agents (e.g., arginine, glutamine, omega-3 fatty acids, vitamins, trace minerals, antioxidants, growth hormone oxandrolone, etc) in burn patients. (B)
6. EN should be used in preference to PN in burn patients requiring SNS. (A)
7. EN should be initiated as soon as possible in patients with moderate/severe burns. (A)
8. PN should be reserved for patients who require SNS and in whom EN is contraindicated or is unlikely to meet nutritional requirements within 4 to 5 days. (B)

Critical Illness

1. Patients with critical illnesses are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. SNS should be initiated when it is anticipated that critically ill patients will be unable to meet their nutrient needs orally for a period of 5–10 days. (B)
3. EN is the preferred route of feeding in critically ill patients requiring SNS. (B)
4. PN should be reserved for those patients requiring SNS in whom EN is not possible. (C)

Hyperemesis Gravidarum

1. Pregnant women are at nutrition risk and should undergo nutrition screening to identify those who require formal nutrition assessment with development of a nutrition care plan. (B)
2. SNS is indicated in women with hyperemesis gravidarum who are unable to achieve appropriate weight gain despite the use of noninvasive therapies. (B)

3. When SNS is indicated, EN should be initiated as a slow, continuous, isotonic EN infusion to minimize nausea and vomiting and establish adequate calorie intake. (B)
4. PN should be used to treat hyperemesis gravidarum when EN is not tolerated. (B)
5. When SNS is started in malnourished women with hyperemesis gravidarum, thiamin supplementation and careful monitoring for signs of development of refeeding syndrome should be instituted. (B)

Psychiatric Disorders: Eating Disorders

1. All patients with anorexia nervosa are malnourished and should undergo formal nutrition assessment with development of a nutrition care plan. (B)
2. SNS should be initiated in patients with anorexia nervosa with severe malnutrition (greater than 30% recent weight loss or current weight less than 65% of ideal body weight) who are unable or unwilling to ingest adequate nutrition. (B)
3. Upon initiation of SNS in patients with anorexia nervosa, frequent fluid, electrolyte, and acid–base monitoring must be undertaken to avoid sequelae of the refeeding syndrome. (A)

Perioperative Nutrition Support

1. Preoperative SNS should be administered to moderately or severely malnourished patients undergoing major gastrointestinal surgery for 7 to 14 days if the operation can be safely postponed. (A)
2. PN should not routinely be given in the immediate postoperative period to patients undergoing major gastrointestinal procedures. (A)
3. Postoperative SNS should be administered to patients whom it is anticipated will be unable to meet their nutrient needs orally for a period of 7 to 10 days. (B)

Definitions:

Rating Scheme

A. There is good research-based evidence to support the guideline (prospective, randomized trials).
B. There is fair research-based evidence to support the guideline (well-designed studies without randomization).
C. The guideline is based on expert opinion and editorial consensus.

CLINICAL ALGORITHM(S)

Clinical algorithms of the Nutrition Care Process and Route of Administration of Specialized Nutrition Support are provided in the companion document: Nutrition care process. Section II: Nutrition Care Process. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 7SA-8SA.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not explicitly stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate selection of patients for nutrition screening and appropriate selection of nutritional support for various scenarios in a number of diseases/conditions.
- For all possible benefits by disease/condition, refer to the original guideline document.

POTENTIAL HARMS

Use of specialize nutrition support in specific diseases/conditions and in certain scenarios may be associated with harms. Refer to the original guideline document for details and a discussion of the literature.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Clinical Guidelines are general statements. They are based upon general conclusions of health professionals who, in developing such guidelines, have balanced potential benefits to be derived from a particular mode of medical therapy against certain risks inherent with such therapy. However, the professional judgment of the attending health professional is the primary component of quality medical care. The underlying judgment regarding the propriety of any specific procedure must be made by the attending health professional in light of all of the circumstances presented by the individual patient and the needs and resources particular to the locality. These guidelines are not a substitute for the exercise of such judgment by the health professional, but rather are a tool to be used by the health professional in the exercise of such judgment. These guidelines are voluntary and should not be deemed inclusive of all proper methods of care, or exclusive of methods of care reasonably directed toward obtaining the same results.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Specific guidelines for disease - adults. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl):61SA-96SA. [464 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Jan-Feb

GUIDELINE DEVELOPER(S)

American Society for Parenteral and Enteral Nutrition - Professional Association

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Clinical Guidelines Task Force

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the American Society for Parenteral and Enteral Nutrition (ASPEN), 8630 Fenton St, Suite 412, Silver Spring, MD 20910-3805; (800) 741-8972. For details, please see the ASPEN Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Guidelines for the use of parenteral and enteral nutrition in adult and pediatric patients. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 1SA-6SA.
- Nutrition care process. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 7SA-8SA.

Print copies: Available from the American Society for Parenteral and Enteral Nutrition (ASPEN), 8630 Fenton St, Suite 412, Silver Spring, MD 20910-3805; (800) 741-8972. For details, please see the ASPEN Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on May 5, 2004.

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